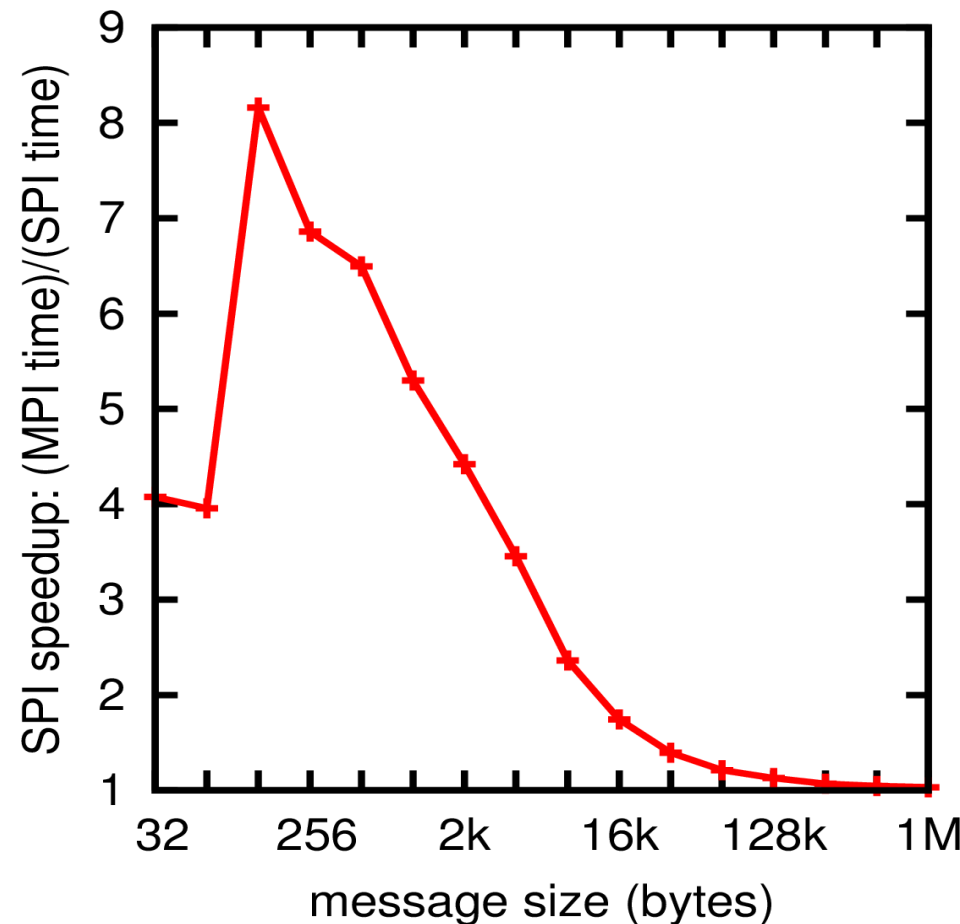
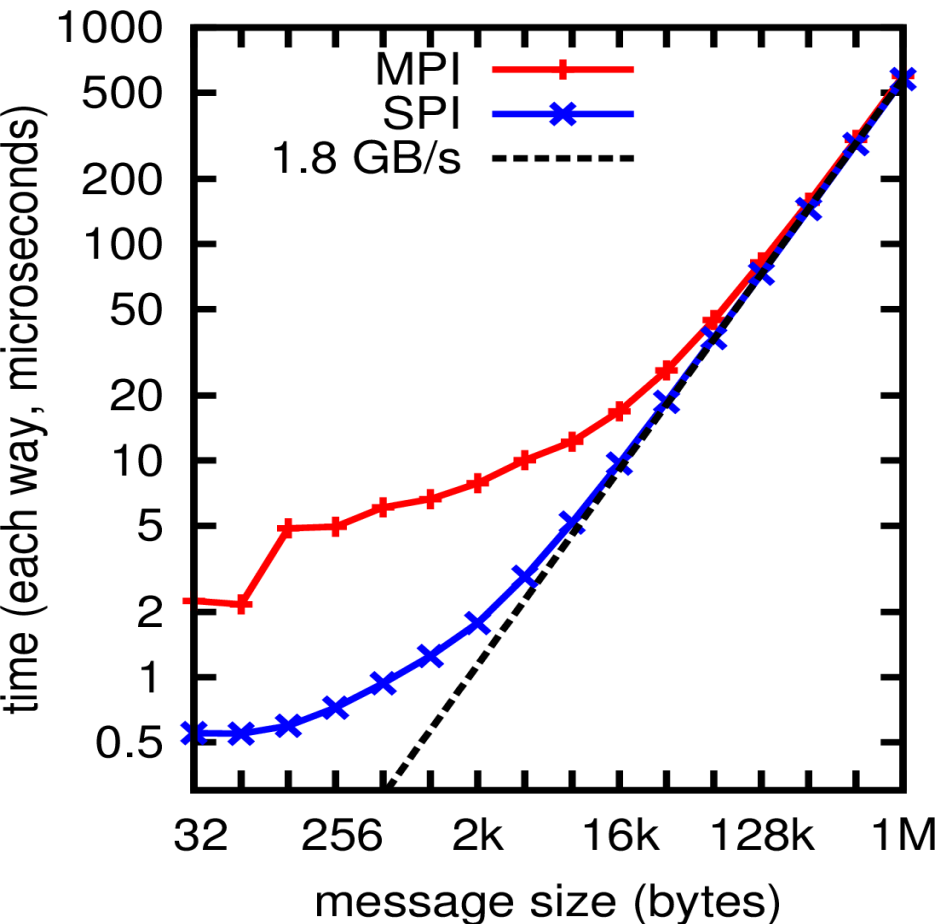


# SPI communications

- Low level communications interface
  - Exposes hardware details
  - Program DMA engine to transfer data within or between nodes
  - Everything else (PAMI, MPI, ...) built on it
- Message types
  - Memory FIFO
    - Data goes into FIFO on receiver, user copies to final destination
    - Used by PAMI, MPI
  - Direct Put
    - Direct memory-to-memory transfer; no CPU intervention
    - Only accessible through SPI
    - Requires extra coordination between sender and receiver
      - Set up send/recv pair once, reuse many times
    - Use by some Lattice QCD codes
  - Also has Remote Get and collectives
- See Heechang Na or James Osborn for more details

# Ping-pong test on nearest neighbor nodes

## SPI using Direct Put, MPI using “legacy.ndebug”



Results from Heechang Na, James Osborn

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